



MAKERERE UNIVERSITY

We Build For The Future



Planning for Climate Change Adaptation in Kampala

Shuaib Lwasa

Department of Geography Geoinformatics and Climatic Sciences

Lwasa_s@caes.mak.ac.ug

Urban Management Tools for Climate Change - UMTCC
A course organized by IHS in collaboration with UN-Habitat
June 12 – June 30, 2017



MAKERERE UNIVERSITY

We Build For The Future



Outline

- Introduction
- Definitions
 - Adaptation
 - Adaptation Planning
- Principles
- Method
- Case study



MAKERERE UNIVERSITY

We Build For The Future



KCCA 2015 Climate Charter





MAKERERE UNIVERSITY

We Build For The Future

Profiling climate change actions and formulation of a plan



3



Energy & Climate Profile	1. Physical planning	2. Mobility	3. Energy, Water, Waste
4. Public buildings and assets	5. Socio-eco Green Development	6. Communication, participation, education	7. Governance, HR, Finance





MAKERERE UNIVERSITY

We Build For The Future

KCCA Climate Action Plan

PARTNERS



COMMITMENT

We support the Kampala Climate Change Action strategy

We act with our own action plan for mitigation and adaptation

We share our best practices, new ideas and learn from one another

We develop our knowledge about climate change and energy issues

We raise awareness in our organization about climate change and energy issues

We assess our water and energy consumptions, GhG emissions and air quality impacts

We report annually our achievements to the Stakeholders' Forum

We will prioritize

- Energy efficiency
- Waste and waste water
- Mobility
- Buildings and Land use
- Renewable energies
- Biodiversity
- Green Procurement and Investment
- Research and Innovation
- Communication and Participation
- Financing and Project support





MAKERERE UNIVERSITY

We Build For The Future



- Definitions



MAKERERE UNIVERSITY

We Build For The Future



What is adaptation?

- **Adaptation** is a process through which societies make adjustments in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities.
- Adaptation includes processes, practices, institutions and infrastructures through which natural, economic and social system moderate the effects or impacts of climate stimuli including variability and extreme events or take benefits from opportunities associated with climate change.
- IPCC, (2007). "[Summary for Policymakers](#)" *Climate Change 2007: The Synthesis Report Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*. [Intergovernmental Panel on Climate Change](#) (2007-02-05).



MAKERERE UNIVERSITY

We Build For The Future



What to adapt to?

- Climate variability and change in Uganda
 - Observed and predicted changes in rainfall and temperature
 - Variable over the last 7 decades with anomalies
 - Over space and time in the country
 - Experienced variability already causing disasters; floods, droughts
 - Predicted changes have implications to water resources, food security, human settlements, infrastructure and natural resources



MAKERERE UNIVERSITY

We Build For The Future



What actors are involved in adaptation?

- Governments
- Corporations??
- International institutions
- Development Banks??

□ Linkages – how? Who? CBA? □

- Donors
- NGOs
- Research institutions



MAKERERE UNIVERSITY

We Build For The Future



Entry Point for adaptation

- Institutional readiness for adaptation important
 - Systems change, institutional realignment and comprehensive approach
 - The importance of urban infrastructure systems to support local adaptation
 - Soft systems support and ‘Transformative development’
- The bulk of work lies at local level and the urban dwellers role is critical
 - *Adaptation measures will come from action!!*

The Importance of Community Level Adaptation

- Adaptation must be at *individual and household level*
- So why community? A larger unit needed for analysis and action – with potential for **self-organisation** and **pressure on other institutions**
- For community adaptation to happen, it needs much more than the community! It has to be joined up with other sectors , development and DRR
- Challenge: are practitioners comfortable at community level?
- “There is no such thing as community...” without understanding power – major barrier

Modes of adaptation

- **Suffer** – decline in livelihood, increased poverty, relocate, migrate...
- **Responsive** – spontaneous, coping with trends: too late?
- **Developmental** – generic, poverty reduction, involves better or more diverse livelihoods
- **(Un)economic growth** – mal-adaptive – poverty reduction role is questionable
- **Transformative and absorptive;** anticipatory, predictive



MAKERERE UNIVERSITY

We Build For The Future



- Principles



Participatory



Through to Implementation of pilot actions



MAKERERE UNIVERSITY

We Build For The Future



Engagement with Stakeholders



Regular meetings with the core stakeholder group



Public consultation methods to acquire feedback



MAKERERE UNIVERSITY

We Build For The Future



Participation by Different Actors

Sharing local
knowledge
and expertise

Review,
validate, and
identify
conditions

Provide
aspirations
and local
objectives

Development
of responses

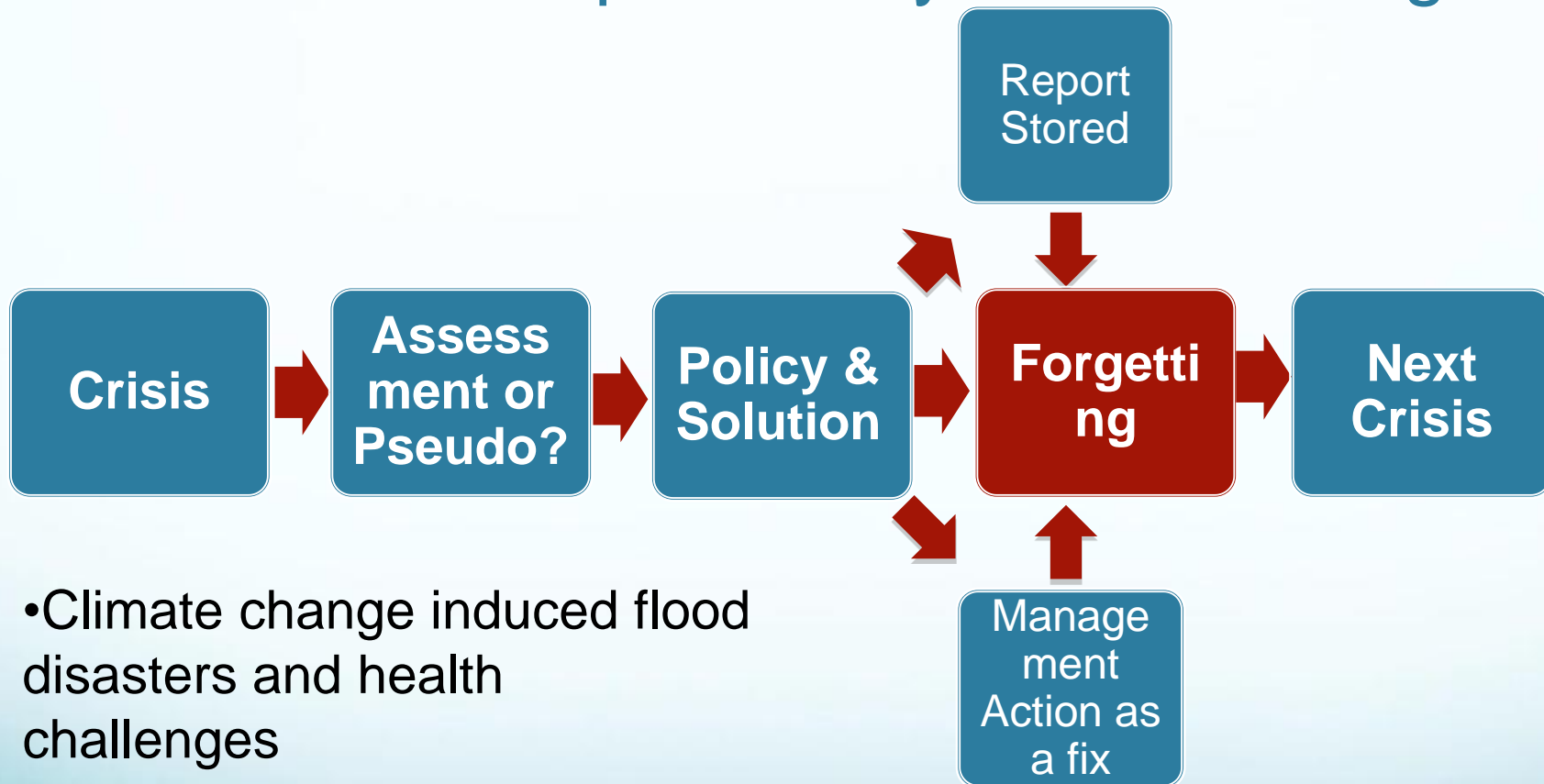
Creating
alliances



MAKERERE UNIVERSITY

We Build For The Future

Current Responses by Urban Managers



- Climate change induced flood disasters and health challenges

- Climate change induced disasters affecting urban infrastructure

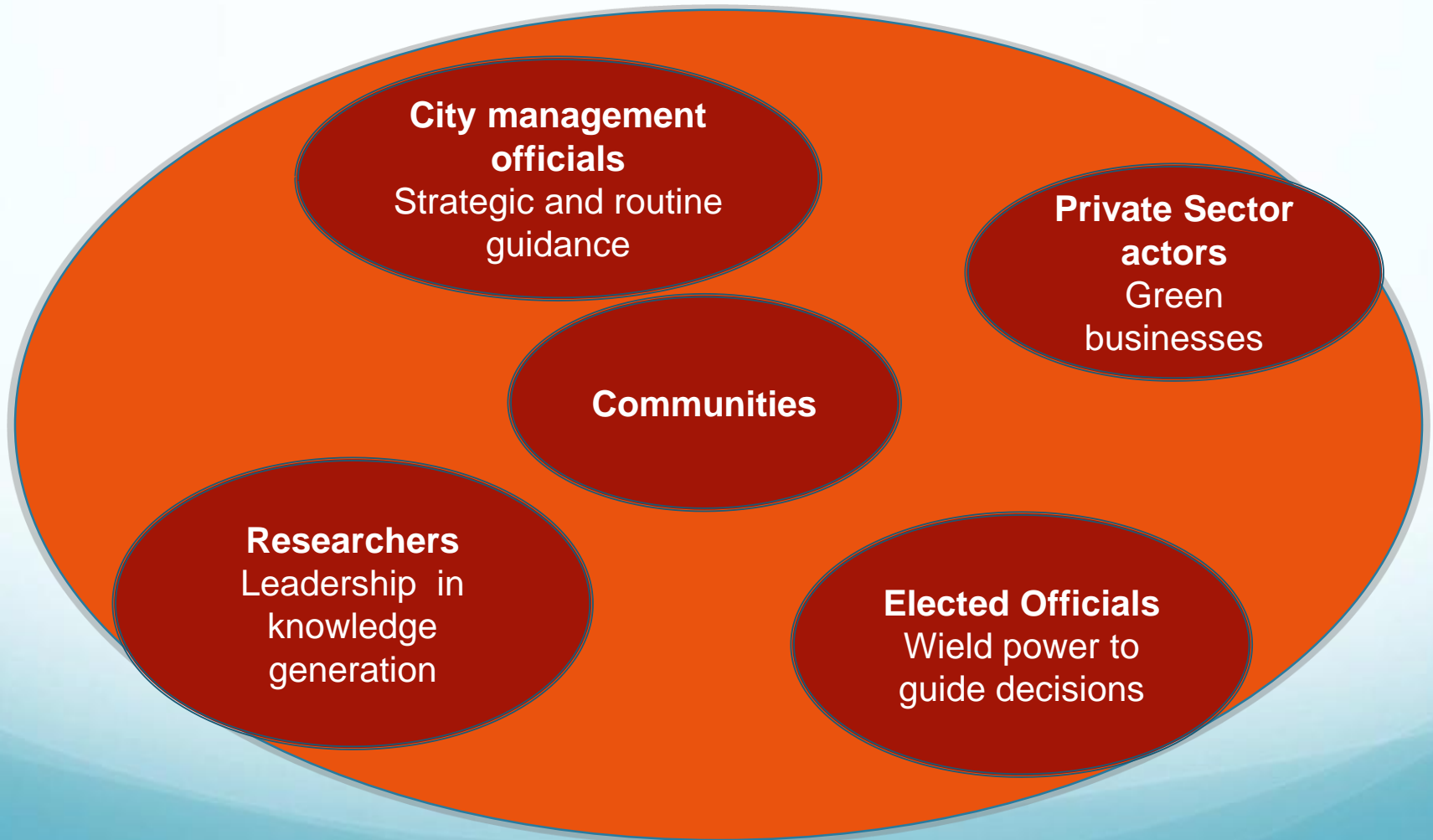


MAKERERE UNIVERSITY

We Build For The Future



Actors' Roles





MAKERERE UNIVERSITY

We Build For The Future



- Method

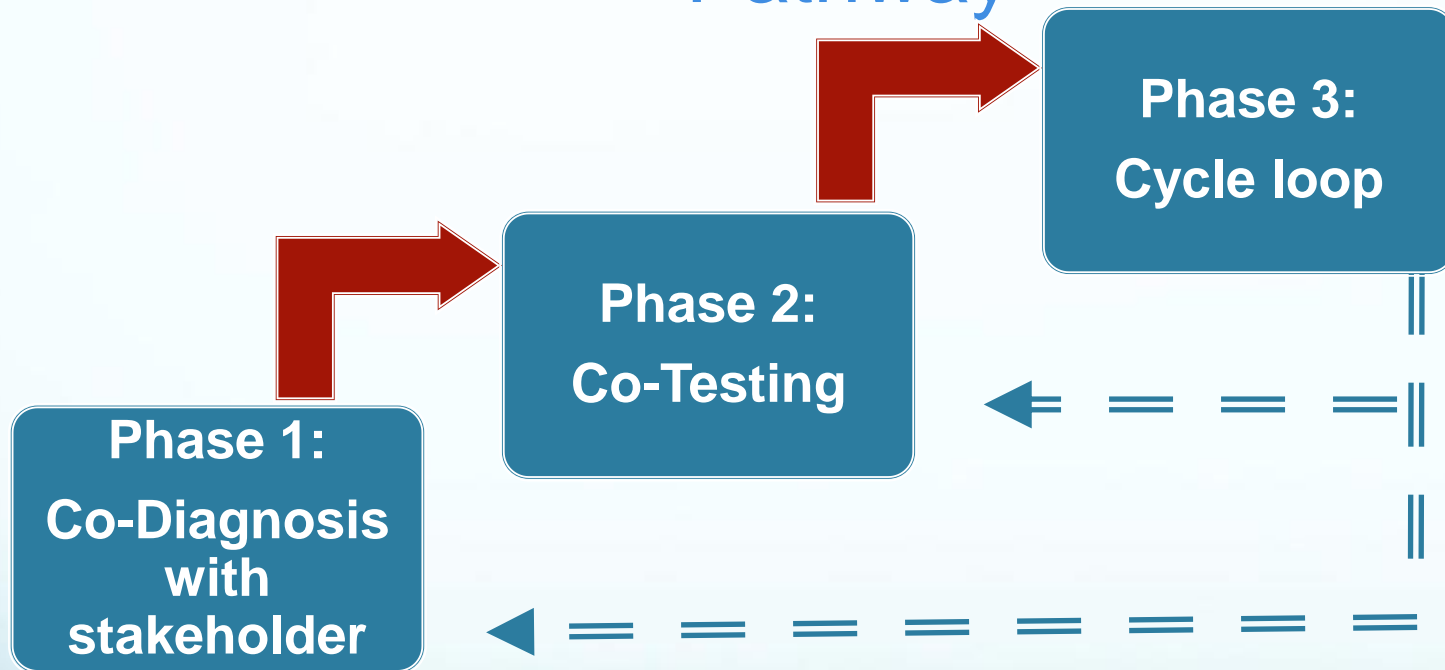


MAKERERE UNIVERSITY

We Build For The Future



Participatory Adaptation Planning Pathway





MAKERERE UNIVERSITY

We Build For The Future



Key Elements

- From conceptual city-wide to neighborhood level planning
- Community participation
- Innovative planning
- Coupling reduction of anticipated risks and poverty or development needs
- Minimal costs and responding to existential needs
- Experiential learning



MAKERERE UNIVERSITY

We Build For The Future



• Case Study



MAKERERE UNIVERSITY

We Build For The Future



Making the Edible Landscape: reduce risk enhance inclusiveness

Integrate urban
agriculture in
existing
settlements

Upgrading of
existing poor
neighborhoods

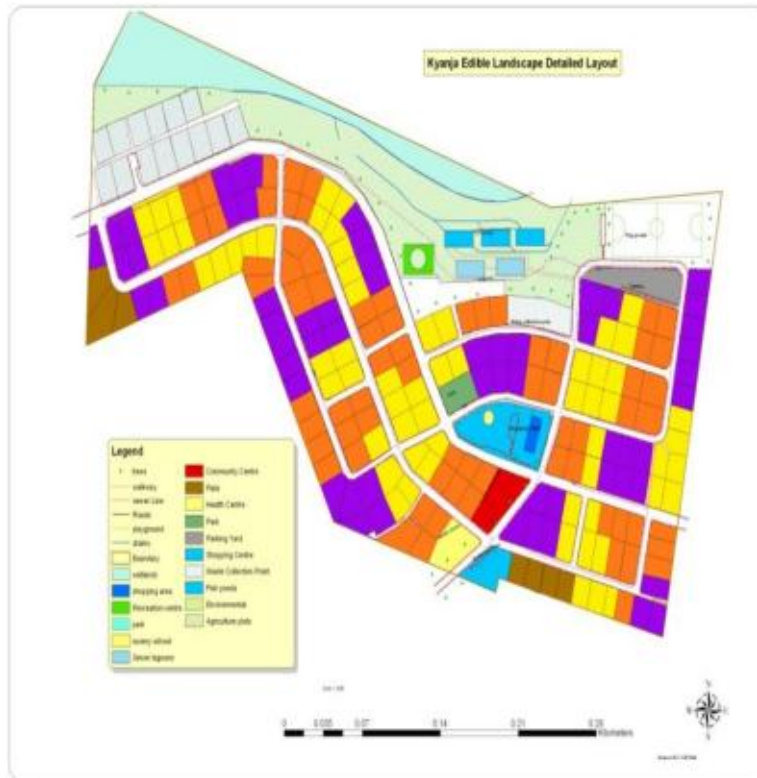
Design of new
green and
productive
neighborhoods



MAKERERE UNIVERSITY

We Build For The Future

Neighbourhood Design



Livestock



Poultry



Crops



MAKERERE UNIVERSITY

We Build For The Future

Leadership Involvement





MAKERERE UNIVERSITY

We Build For The Future

Gathering Views of stakeholders





MAKERERE UNIVERSITY

We Build For The Future



Beneficiaries



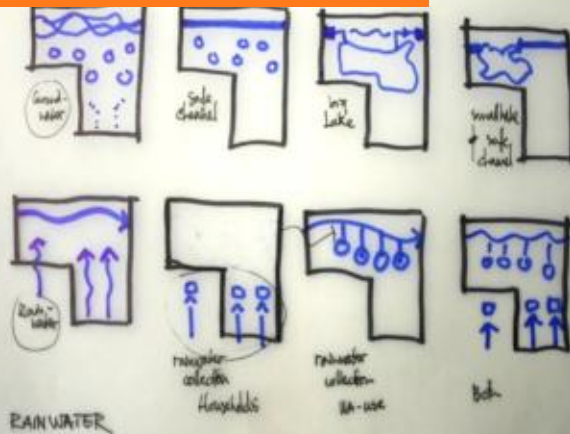
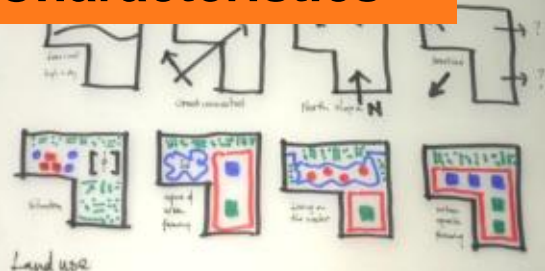


MAKERERE UNIVERSITY



Characteristics

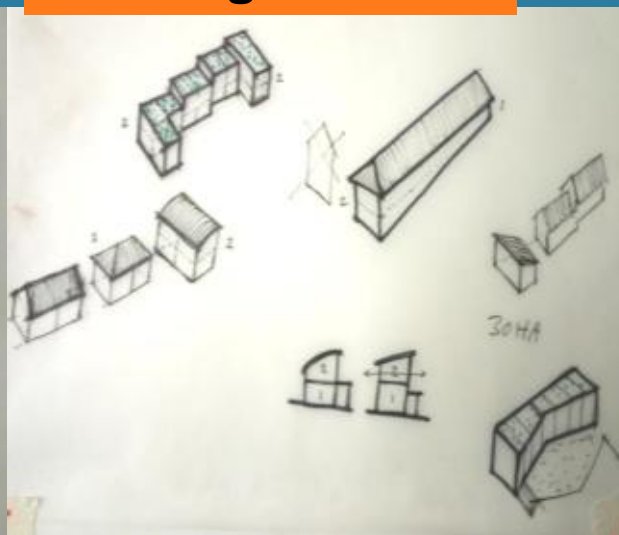
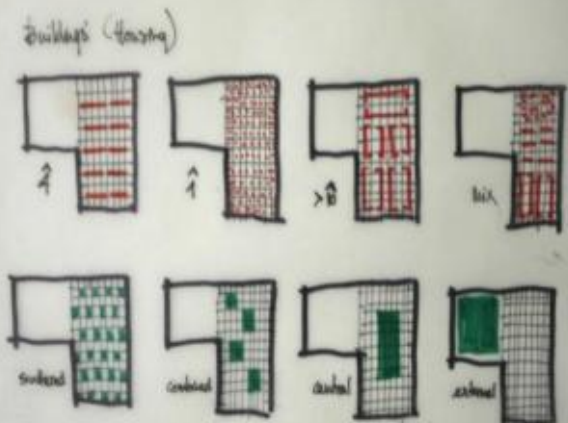
Drainage



Conceptual housing designs

Agriculture

Buildings





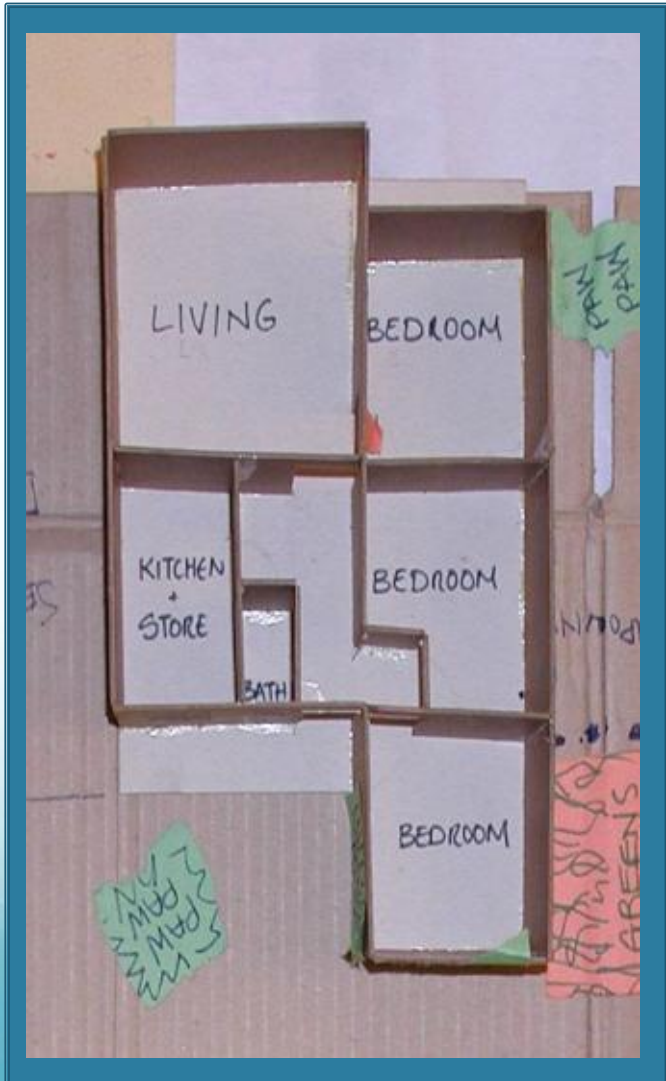
MAKERERE UNIVERSITY

We Build For The Future



Most favored housing prototype

- 57 m² total floor area
- Semi-detached
- Roadside location
- 3 bedrooms
- Living Room
- Indoor Kitchen/Store and Bath
- Minimal hallway





MAKERERE UNIVERSITY

We Build For The Future



Design principles

- Environmental Quality
- Neighborhood Concept
- Garden City Concept
- Green neighborhood
- Accessibility and connectivity
- Economic sustainability
- Reduction of risks to flooding

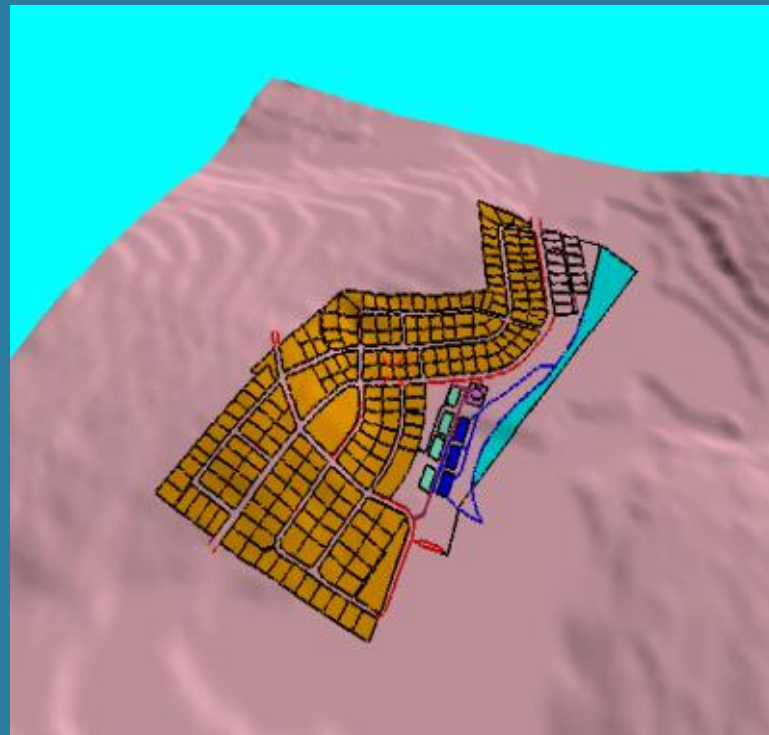


MAKERERE UNIVERSITY

We Build For The Future



The Preferred Design





MAKERERE UNIVERSITY

We Build For The Future



-  semi detached roadside housing with backyard agricultural practices, edged with fruit trees
-  three storied flats
-  shared car shed between four neighbours
-  community health center with medicine garden
-  community day care center with vegetable garden
-  community center
-  community market with green terraces between stalls
-  informal community corner market with small gardens
-  community resource center surrounded by aquatic plants from reclaimed clay pits
-  fish ponds from reclaimed clay pits
-  storm water retention ponds, cleaned naturally through aquatic plants from reclaimed clay pits
-  existing soccer field
-  restored wetland with light community agricultural practices

KYANJA EDIBLE LANDSCAPE NEIGHBOURHOOD



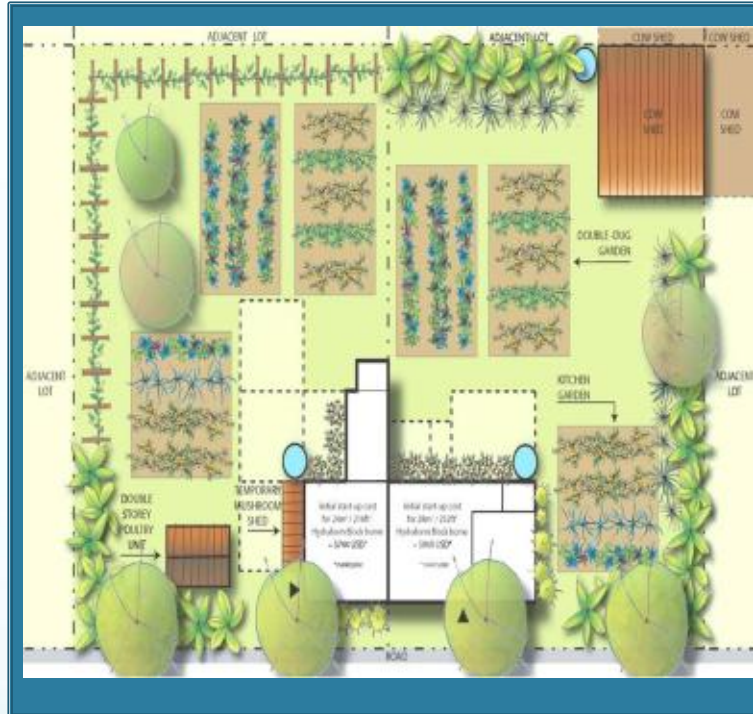
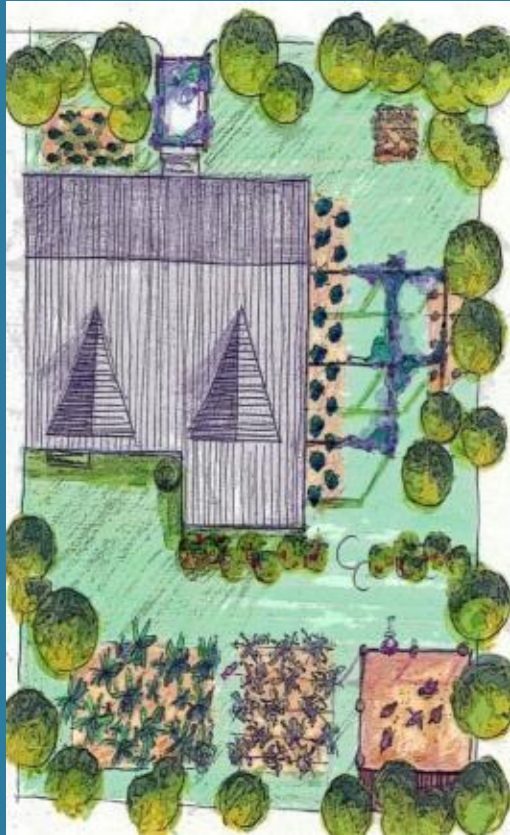
The envisaged
neighborhood



MAKERERE UNIVERSITY

We Build For The Future

Plot Utilization

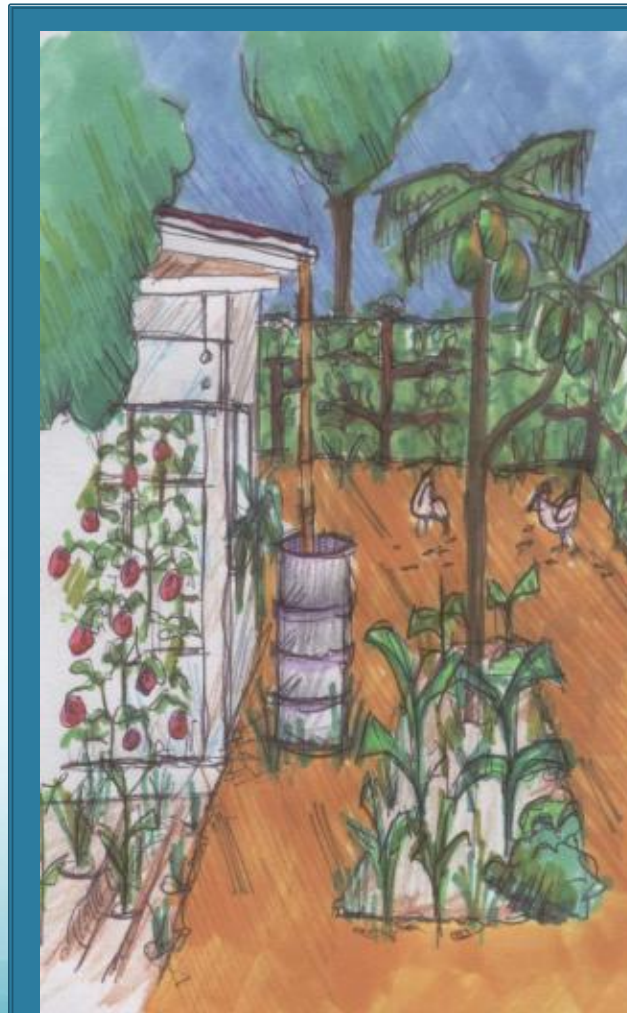




MAKERERE UNIVERSITY

We Build For The Future

Space-Confined Productive Greening

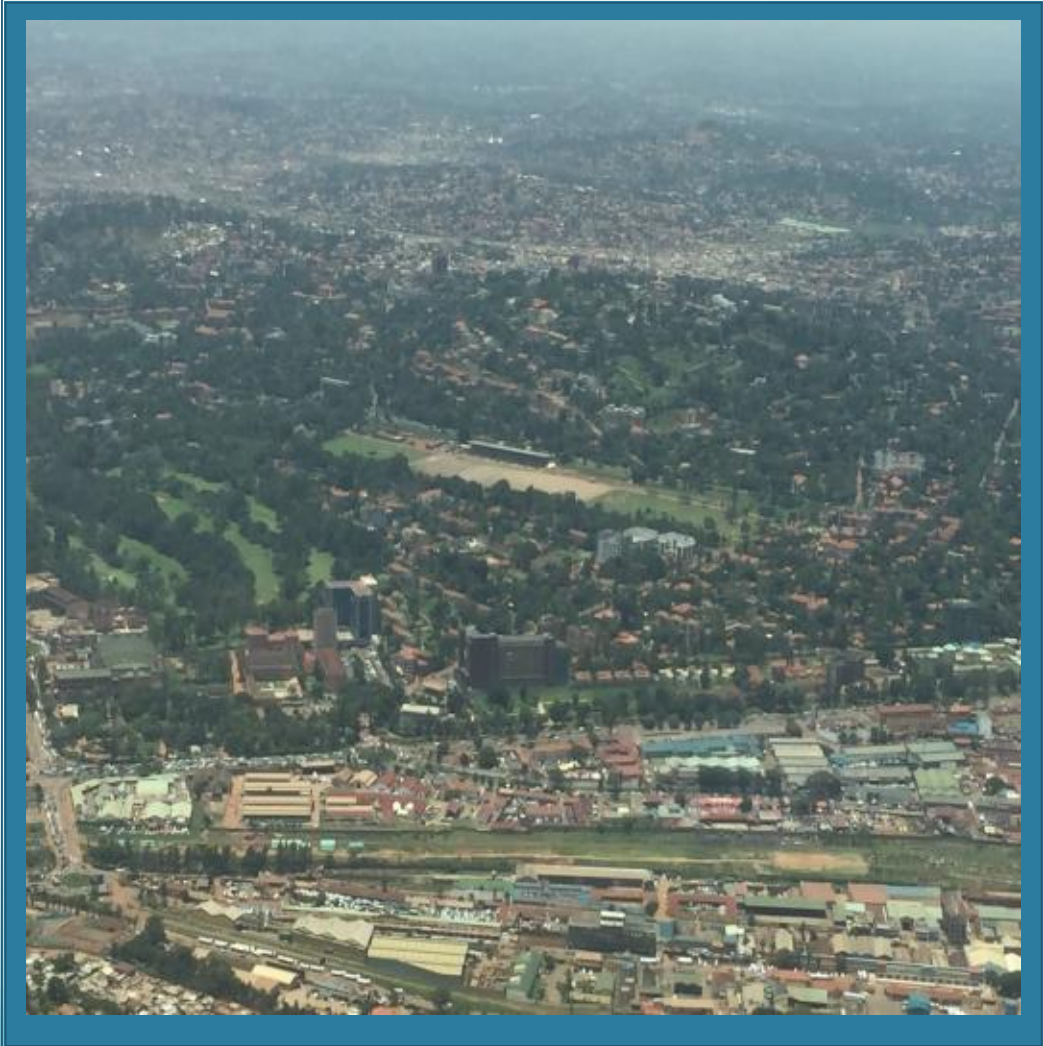




MAKERERE UNIVERSITY

We Build For The Future

Micro to City Scale





MAKERERE UNIVERSITY

We Build For The Future



Enhancing Neighborhood scale adaptation; responses

- A critical issue is – what urban adaptation measures are needed and how to promote them, at what scale and by whom?
- Scalable local level adaptation measures provide an opportunity for resilience to climate change
- But what happens with adaptation in view of existing urban inequalities?



MAKERERE UNIVERSITY

We Build For The Future



Requirements for Scaling Up

- Local communities and institutions taking action
- Institutionalizing solutions
- Innovative urban financing mechanisms
- Embed risk reduction objectives
- Address both adaptation and mitigation

Satterthwaite, D., (2011). What Role for Low-income Communities in Urban Areas in Disaster Risk Reduction? Global Assessment Report on Disaster Risk Reduction (GAR) London, 39-40.
Available at: <http://www.preventionweb.net/english/hyogo/gar/2011/en/home/download.html>

Scaling up and out

- Scale up the CBA interventions that are existing / will be tested.
 - The need to urgently create good ideas and actions
- Arrival of significant funding will alter the character of what is done
 - But institutions have to be ready
 - Communities need to react appropriately; who is to prepare them?
- Multiplying beyond project areas will often be 'non-participatory' - will have to succeed on merit, profit
 - *Must also need for smart adaptations – livelihood-based!*

Why scaling up/out?

The 'adaptation gap'

“The additional *or transformed* resources needed by any particular entity to deal with the difference between 'existing conditions' and those that will result from climate change”

Who can play a role help to fill the adaptation gap?

Is what they can do enough?

NB: Future climate trends are uncertain and so is adaptation!!

Adaptation gap caveat!

- “Adaptation is the form that development must take in response to climate change”
- What has prevented or constrained development so far? Will those factors go away simply because of CC?
- We should explore in what ways CBA and Institutional Climate Readiness (ICR) can provide as evidence required to ‘cost’ or fill these different adaptation gaps
- The gaps defined by the people may be different from that defined by outsiders (who have a different set of priorities)
 - *Emphasis; learning from doing!!!!*

What is needed in addition?

- **How does Development differ from Adaptation?**
- **Is it business as usual or changes / additions?**
- **What are costs of adaptation?**
- What makes a project an Adaptation project rather than a “Development” as usual project?

Adaptation and Development coincide in many cases:

1. “Accidental” Adaptation: Activities undertaken to achieve development objectives also incidentally achieve adaptation objectives. The adaptation components of a given activity may even be noticed or emphasized only after the fact.

2. Climate-Proofing of existing development efforts: Activities added to an ongoing development initiative to ensure its success under a changing climate. Adaptation thus serves as means to achieve development ends.

3. Specific Adaptation: Activities undertaken specifically to achieve climate adaptation objectives. Development activities may be used as means to achieve adaptation ends.



Concluding remarks

- Adaptation is locale and context specific
- Adaptation is largely from learning by doing
- Development can enhance resilience and thus adaptation to future impacts
- The roles of different actors and entry points for adaptation



MAKERERE UNIVERSITY

We Build For The Future



- Questions and comments
- Thank you!